

CLAIMS

1. An image display system, in which a computer and an image display apparatus including a storage device are connected with each other via a network,

said computer comprising:

an input unit that is used to input at least one of data and a command;

a data storage module that stores therein display data to be displayed by said image display apparatus;

a password setting requirement module that requires setting of a password in the process of transferring desired data from said data storage module to said storage device of said image display apparatus; and

a data transfer module that, when a password is set via said input unit, maps the preset password to the desired data and transfers the desired data with the password to said storage device of said image display apparatus,

said image display apparatus comprising:

a data receiving module that stores the transferred desired data with the password into said storage device;

an input unit that is used to input at least one of data and a command;

an authentication module that, in response to selection of desired display data among data stored in said storage device, requires input of a password via said input unit and determines whether or not the input password is coincident with the preset password; and

a projection display module that allows the selected display data to be projected and displayed when it is determined that the two passwords are coincident with each other.

2. An image display system in accordance with claim 1, wherein said data transfer module of said computer transfers only the desired data to said storage device of said image display apparatus, when no password is set via said input unit.

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3. An image display system in accordance with either one of claims 1 and 2, wherein said projection display module of said image display apparatus projects and displays a projection display forbid window representing failed authentication, when it is determined that the two passwords are not coincident with each other.

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4. An image display system in accordance with any one of claims 1 to 3, wherein said computer further comprises a display screen, on which a list of data stored in said data storage module and an icon representing said image display apparatus are displayed, and

said password setting requirement module requires setting of a password, when the desired data selected out of the list of storage data is dragged and dropped onto the icon of said image display apparatus on the display screen.

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5. An image display system in accordance with any one of claims 1 to 4, said image display system further comprising:

a file server connecting with the network,

wherein, when a password is set via said input unit, said data transfer module of said computer maps the preset password to the desired data and transfers the desired data with the password to said file server.

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6. A method of storing data to be displayed with a projector via a computer, said method comprising the steps of:

specifying data to be displayed;

determining whether or not a requirement of storing the specified

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data into a storage device is output;

when it is determined that the storing requirement is output,
requiring setting of a password;

mapping the preset password to the specified data; and

transferring the data with the password to said storage device.

7. A method in accordance with claim 6, wherein it is determined
that the requirement of storing the specified data into said storage device
is output, when an icon representing the specified data is dragged and
dropped onto an icon representing said storage device on a display
screen of said computer.

8. A method in accordance with either one of claims 6 and 7,
wherein said storage device is incorporated in said projector.

9. A method in accordance with either one of claims 6 and 7,
wherein said storage device is incorporated in a file server, which is
connected with said projector and said computer via a network.

10. A method of causing display data including display data
mapped to a password with an image display apparatus, said method
comprising the steps of:

specifying desired display data to be displayed, among a plurality
of display data;

determining whether or not the specified display data is mapped to
a password;

when it is determined that the specified display data is mapped to
a password, requiring input of a password, which is expected to be
assigned to the specified display data;

determining whether or not the input password is coincident with
the password mapped to the specified display data; and

allowing the display data to be displayed, when it is determined that the input password is coincident with the password mapped to the specified display data.

5 11. A method in accordance with claim 10, said method further comprising the step of showing prohibition of display of the display data, when it is determined the input password is not coincident with the password mapped to the specified display data.

10 12. An image display apparatus having a function of data protection, said image display apparatus comprising:

an input unit that is used to input at least one of data and a command;

15 a display data storage module that stores display data including display data mapped to a password;

 a password requirement module that requires input of a password, in response to a display requirement for displaying the display data mapped to the password;

20 an authentication module that determines whether or not a password input via said input unit is coincident with the password mapped to the display data; and

 a projection display module that allows the required display data to be projected and displayed, when it is determined that the two passwords are coincident with each other.

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 13. An image display apparatus having a storage device in which display data is stored, said image display apparatus comprising:

an input unit that is used to input at least one of data and a command;

30 a data list display module that displays a list of data stored in said storage device;

a password input window display module that, in response to selection of data out of the data list, displays an input window of a password assigned to the selected data;

an authentication module that determines whether or not the password input via said input unit is coincident with a preset password mapped to the selected data; and

a projection display module that allows the selected data to be projected and displayed, when it is determined that the input password is coincident with the preset password.

14. An image display apparatus in accordance with claim 13, said image display apparatus further comprising:

a forbid window display module that displays a projection display forbid window representing failed authentication, when the input password is not coincident with the preset password.

15. A computer readable medium, in which a program executed on a computer for storing data to be displayed with a projector is stored, said program causing the computer to attain the functions of:

specifying data to be displayed;

determining whether or not a requirement of storing the specified data into a storage device is output;

when it is determined that the storing requirement is output, requiring setting of a password;

mapping the preset password to the specified data; and

transferring the data with the password to said storage device.

16. A computer readable medium, in which a program for allowing display data mapped to a password to be displayed on an image display apparatus, said program causing the computer to attain the functions of:

specifying desired display data to be displayed, among a plurality

of display data;

determining whether or not the specified display data is mapped to a password;

when it is determined that the specified display data is mapped to a password, requiring input of a password, which is expected to be assigned to the specified display data;

determining whether or not the input password is coincident with the password mapped to the specified display data; and

allowing the display data to be displayed, when it is determined that the input password is coincident with the password mapped to the specified display data.

17. A projector connectable with a network, said projector comprising:

a projection display module that causes an image to be projected and displayed; and

a Web server module that is capable of distributing Web page information, which includes working status information representing a working status of said projection display module,

said Web server module comprising:

a page information distribution module that distributes the Web page information, which includes the working status information representing the working status of said projection display module, to a Web client in response to a requirement from said Web client;

a control signal supply module that supplies a control signal for controlling the working status of said projection display module to said projection display module, according to control information input on a Web page distributed to and displayed on said Web client and sent back; and

a page information update module that fetches new working status information representing a new working status of said projection display module controlled by the control signal and updates the Web page

information distributed to said Web client.

18. A method of controlling a working status of a projector comprising a projection display module and a Web server module via a network, said method comprising the steps of:

(a) distributing Web page information, which includes working status information representing a working status of said projection display module, to a Web client in response to a requirement from said Web client;

(b) supplying a control signal for controlling the working status of said projection display module to said projection display module, according to control information input on a Web page distributed to and displayed on said Web client and sent back; and

(c) fetching new working status information representing a new working status of said projection display module controlled by the control signal and updating the Web page information distributed to said Web client.

19. A method in accordance with claim 18, wherein the Web page includes a button operated to change the working status of said projector, and a press of the button causes the control information to be transmitted to said projector.

20. A recording medium in which a program is recorded in a computer readable manner, said program controlling a working status of a projector, which comprises a projection display module and a Web server module, via a network, said program causing a computer to attain the functions of:

distributing Web page information, which includes working status information representing a working status of said projection display module, to a Web client in response to a requirement from said Web

client;

supplying a control signal for controlling the working status of said projection display module to said projection display module, according to control information input on a Web page distributed to and displayed on said Web client and sent back; and

fetching new working status information representing a new working status of said projection display module controlled by the control signal and updating the Web page information distributed to said Web client.

21. A projector connecting with an external input apparatus having an input unit via a network, said projector comprising:

a network interface module that connects with the network;

a video data generation module that executes a predetermined series of processing with regard to contents of an image to be projected and displayed and generates video data representing the image to be projected and displayed, based on operation information generated through an operation of said input unit of said external input device and supplied to said network interface module via the network;

an electro-optic device that generates an image ray according to the video data; and

a projection optical system that projects the image ray generated by said electro-optic device.

22. A projector in accordance with claim 21, wherein the image to be projected and displayed includes an original image and an ornamental image superimposed on the original image,

ornamental video data representing the ornamental image is not supplied from said external input apparatus but is prepared by said video data generation module, and

said video data generation module combines original video data

representing the original image with the ornamental video data to generate the video data, based on the operation information supplied from said external storage device, thereby superimposing the ornamental image at a predetermined position on the original image.

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23. A projector in accordance with claim 22, wherein the operation information includes at least positional information, which is generated through an operation of a pointing device used as said input unit of said external input apparatus, and

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said video data generation module superimposes a pointer image as the ornamental image at the predetermined position on the original image, based on the positional information.

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24. A projector in accordance with claim 23, wherein the positional information includes coordinate value information specified by said pointing device.

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25. A projector in accordance with either one of claims 23 and 24, wherein the operation information further includes switch information generated through an operation of a switch mounted on said pointing device, and

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said video data generation module superimposes an ornamental image, which is different from the pointer image, in a specified area on the original image, based on the positional information and the switch information included in the operation information.

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26. A projector in accordance with claim 25, wherein the operation information further includes key information generated through an operation of a keyboard as said input device of said external input apparatus, and

said video data generation module superimposes a symbol image

as the ornamental image on the original image, based on the key information.

27. A projection display system comprising an external input
5 apparatus and a projector connecting with each other via a network,
said external input apparatus comprising:
an input unit;
an operation information generation module that detects a user's
operation of said input unit and generates operation information based on
10 a result of the detection; and

a first network interface module that connects with the network
and supplies the operation information to said projector via the network,
said projector comprising:
a second network interface module that connects with the network;
a video data generation module that executes a predetermined
series of processing with regard to contents of an image to be projected
and displayed and generates video data representing the image to be
projected and displayed, based on the operation information supplied to
said second network interface module via the network;
20 an electro-optic device that generates an image ray according to
the video data; and
a projection optical system that projects the image ray generated
by said electro-optic device.

25 28. A projection display system in accordance with claim 27, the
image to be projected and displayed includes an original image and an
ornamental image superimposed on the original image,

ornamental video data representing the ornamental image is not
supplied from said external input apparatus but is prepared by said video
30 data generation module, and

said video data generation module combines original video data

representing the original image with the ornamental video data to generate the video data, based on the operation information supplied from said external storage device, thereby superimposing the ornamental image at a predetermined position on the original image.

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29. A projection display system in accordance with claim 28, wherein said input unit comprises a pointing device,

the operation information includes at least positional information generated through an operation of said pointing device, and

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said video data generation module superimposes a pointer image as the ornamental image at a predetermined position on the original image, based on the positional information.

30. A projection display system in accordance with claim 29, wherein said external input apparatus further comprises a display unit, and

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said operation information generation module causes an operation information generation area, in which the operation information is generated in response to the operation of said pointing device, to be displayed on said display unit, and detects the operation of said pointing device only when a pointer image corresponding to said pointing device is present in the operation information generation area.

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31. A projection display system in accordance with claim 30, wherein the operation information generation area is mapped to an image area to be projected and displayed.

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32. In an external input apparatus having an input unit, a method of generating operation information that is generated through an operation of said input unit and is supplied to a projector, which is connected to said external input apparatus via a network, said method comprising the steps

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of:

- (a) detecting a user's operation of said input unit; and
- (b) generating the operation information, based on a result of the detection.

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33. A method in accordance with claim 32, wherein said step (a) comprises the steps of:

- (a-1) causing an operation information generation area, in which the operation information is generated in response to an operation of a pointing device as said input unit, to be displayed on a display unit incorporated in said external input apparatus; and

(a-2) detecting the operation of said pointing device only when a pointer image corresponding to said pointing device is present in the operation information generation area.

34. In an external input apparatus having an input unit, a computer readable recording medium in which a computer program is recorded, said computer program generating operation information that is generated through an operation of said input unit and is supplied to a projector, which is connected to said external input apparatus via a network, said computer program causing a computer to attain the functions

of:

- detecting a user's operation of said input unit; and
- generating the operation information, based on a result of the detection.

35. A computer readable recording medium in accordance with claim 34, wherein said function of detecting the user's operation of said input unit comprises the functions of:

causing an operation information generation area, in which the operation information is generated in response to an operation of a

pointing device as said input unit, to be displayed on a display unit incorporated in said external input apparatus; and

detecting the operation of said pointing device only when a pointer image corresponding to said pointing device is present in the operation

5 information generation area.

2009-05-01 10:48:05